

SUMMARY OF CLAIMS

Claims 4, 6-26 and 35-47 are rejected. Claims 1-3, 5, 10, and 27-34 are canceled. Claims 4, 6, and 11 are amended. Claims 48 and 49 are new. Claims 4, 6-26 and 35-49 are pending. Reconsideration is respectfully requested in light of the following remarks.

REMARKS

Examiner Interview

Applicants wish to express their appreciation to Examiner Lovel for extending the courtesy of conducting an Examiner Interview with Applicants' representatives Paul Borchardt and John Storella on January 22, 2009. The discussion of the cited references was most helpful to counsel in addressing the issues set forth by the Examiner.

No New Matter

Claim 4 is amended for greater clarity, however, no new matter is added as support for the amendments is found throughout the specification. More specifically, support for the storage of selected articles on a computer is found in paragraph 0047. Support for a fact comprising of a first and second physical object that are related by a process is found in at least paragraphs 0071 and 0072. Support for formatting the fact as an object and process relationship for storage in the knowledge representation is found in at least paragraphs 0071-0073 and in claim 4 as originally filed.

Support for new claim 48 is found in claim 5 as originally filed.

Support for new claim 49 is found in paragraphs 0071-0073.

Claim Rejections – 35 USC § 103

During patent examination, the PTO bears the initial burden of supporting a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness, the prior art references must teach or suggest all claim limitations.

Applicants believe the burden under § 103 has not been met for the following reasons:

A. Claims 4, 6-16, 18, 20-26 and 35-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Publication No. 2002/0165737 issued to Howard E. Mahran ("Mahran") and US Patent No. 7,022,905 issued to Jeremy D.F. Hinman et al ("Hinman"). Allegedly, Mahran teaches all of the method steps except for the verification step. This step is allegedly disclosed in Hinman. Applicants traverse the rejection.

Referring to claim 4:

Applicants respectfully contend that Mahran does not disclose at least four claim limitations:

1) extracting information contained in the articles including facts expressed in an article's natural language, wherein the facts comprise a first and second physical object that are related by a process; 2) formatting the facts as an object and process relationship for storage in the knowledge representation; 3) verifying that the facts extracted from the selected articles are correct; and 4) verifying that the facts extracted from the selected articles are placed in the correct format for storage in the knowledge representation.

Each of these limitations is addressed below.

1) extracting information contained in the articles including facts expressed in an article's natural language, wherein the facts comprise a first and second physical object that are related by a process

An example of an extracted fact that comprises a first and second physical object that are related by a process is disclosed in paragraphs 0071-0072 of the instant application. " . . . GST-bax binds to bc2 . . . " Here, two physical objects, in this case the proteins GST-bax and bc2 are related to each other through the process of binding. Applicants contend that Mahran does not show an extracted fact that comprises of a first and second physical object that are related by a process.

Furthermore, it is unclear from Mahran how the information is extracted or parsed and what form the extracted information must take in order for it to populate a record in a study table.

2) formatting the facts as an object and process relationship

Applicants assert that paragraph 0123 referenced by Examiner discloses an indications table with fields for an identifier, a treatment ID, an indicator description, and indicator rule, a parameter ID and a parameter type. Applicants respectfully contend that it is not apparent from this paragraph how a fact that comprises of two physical objects that are related by a process can be formatted by the table fields to represent an object and process relationship. Applicants assert that a physical object cannot be represented by an identifier, a treatment ID, an indicator description, and indicator rule, a parameter ID or a parameter type. Even if it could be argued that two physical objects can be represented by the fields, Applicants assert that it is unclear how a rule that relates the two facts can be represented by another field.

Furthermore, Applicants note that paragraph 0123 discloses that the indications table is part of the treatment dataset. Additionally, paragraph 0122 states that the treatment dataset does not contain information extracted from articles. The first sentence of paragraph 0122, explicitly states that “[i]n addition to containing data extracted directly from the medical literature, database 22 contains a dataset containing information on various treatments, and the rules (indications) that determine whether a particular treatment is appropriate.” (emphasis supplied) These rules are “obtained from experts in the treatment of the disease”, paragraph 0122. Since the rules or indications are not extracted from the medical literature, but instead come from experts, Applicants contend that this reference does not disclose steps 1) and 2) above.

3) verifying that the facts extracted from the selected articles are correct

Mahran does not disclose this verification step and this omission is acknowledged by the Examiner.

4) verifying that the facts extracted from the selected articles are placed in the correct format for storage in the knowledge representation

Mahran does not disclose this verification step and this omission is acknowledged by the Examiner.

Therefore, Applicants contend that they have demonstrated that Mahran does not disclose at least four limitations of claim 4.

These at least four limitations missing from Mahran are not supplied by Hinman. Hinman discloses a method for classifying subjectively perceived subject matter like music. Hinman's method is directed to ensuring that the reviewed subject matter is correctly placed in the right category in a database, rather than extracting facts to build a database. Furthermore, Hinman classifies subjective characteristics and not facts. The word "fact" does not appear in the Hinman. Instead, using music as an example, Hinman discloses the classification of a musical composition's "attributes", "characteristics", "factors" and "values." To analogize to language, these characteristics of Mahran are like adjectives as they describe and give more information about a noun (music), while the instant invention relates two nouns (physical objects) by a verb (process). Therefore, the disclosure of Hinman allows the characterization of a noun in the form of an adjective-noun description, but does not disclose the construction of a relational statement in the form of noun-verb-noun.

Applicants further contend that the nature of the subject matter in Hinman does not allow for the expression of a fact comprising of a physical object. Music, taste, color, physical sensations and the like, while being produced by physical objects are not in themselves physical objects, but rather sensory experiences. Further, since these experiences are not comprised of one physical object, it would be impossible for them to be comprised of two physical objects or two physical that are related by a process.

Furthermore, the characterization process of Hinman can only be applied to one subject matter at a time. There is no disclosure in Hinman on how to characterize two subjects or two subjects that are related by a process.

Additionally, Hinman does not disclose the formatting of a fact as an object and process relationship. Hinman cannot, because the nature of the subject matter classified by Hinman does not represent physical objects, but instead experiences. Music may be represented by descriptions of a

musical composition's attributes (Hinman Fig. 1C, col. 6, line 1- col. 7 line 56) but, this type of formatting does not encompass an object or a process, nor a relationship between the two.

Since Hinman does not disclose the above fact extraction and formatting steps, it is impossible for Hinman to disclose the verification steps that check to see that the extraction and formatting steps were correctly performed. Therefore, Hinman does not disclose these at least four limitations that are missing from Mahran.

In summary, Mahran does not disclose at least four limitations recited in the instant invention and these missing limitation are also not disclosed in Hinman. Therefore, a *prima facie* case of obviousness has not been made. Hence, Applicants respectfully ask that the rejection of independent claim 4 and claims 6-11 that depend directly or indirectly therefrom be withdrawn.

Referring to claim 12:

Applicants respectfully contend that Mahran does not disclose at least five claim limitations:

1) an information extractor that extracts a finding from an article's natural language and translates this finding into a structured finding comprising at least an object, process, and a relationship between the object and process, 2) an information extractor that is an application program; 3) a content reviewer . . . for verifying whether the structured finding has been properly formatted for storage in the second database, 4) a content reviewer that is an application program; 5) a computer system in communication with the second database for storing the structured finding in the second database.

Each of these limitations is addressed below.

1) an information extractor that extracts a finding from an article's natural language and translates this finding into a structured finding comprising at least an object, process, and a relationship between the object and process

Applicants assert that paragraph 0123 referenced by Examiner discloses an indications table with fields for an identifier, a treatment ID, an indicator description, and indicator rule, a parameter ID and a parameter type. Applicants respectfully contend that it is not apparent from this paragraph

how a structured finding that comprises at least an object, process, and a relationship between them can be represented by the indications table fields.

Furthermore, Applicants contend that paragraph 0123 discloses that the indications table is part of the treatment dataset and therefore according to paragraph 0122, it does not contain information extracted from articles. Instead, the rules or indications are “obtained from experts in the treatment of the disease”, paragraph 0122. Therefore, Applicants assert that this reference does not disclose step 1) above.

2) an information extractor that is an application program

Without an information extractor that extracts a finding from an article’s natural language and translates this finding into a structured finding, there cannot be an information extractor that is an application program.

3) a content reviewer . . . for verifying whether the structured finding has been properly formatted for storage in the second database

Without a structured finding that comprises at least an object, process, and a relationship between them, it is not possible to have a content reviewer verify that the structured finding is properly formatted for storage.

4) a content reviewer that is an application program

Without a content reviewer for verifying whether the structured finding has been properly formatted, there cannot be a content reviewer that is an application program.

5) a computer system in communication with the second database for storing the structured finding in the second database.

Without a structured finding, there cannot be a second database for storing the structured finding.

Therefore, Applicants contend that Mahran does not disclose at least five limitations of claim 12.

These at least five limitations missing from Mahran are not supplied by Hinman. Hinman discloses a method for classifying subjectively perceived subject matter like music. Hinman does not extract a finding from an article's natural language and translate this finding into a structured finding comprising at least an object, process, and a relationship between the object and process. Applicants contend that the nature of the subject matter in Hinman does not allow for the expression of a finding (fact) that comprises of an object, process and a relationship between them. Furthermore, Applicants contend that the characteristics reviewed by Hinman, such as "weight", "intensity" or "mood description" cannot be structured to express a relationship between an object and a process because the experience of listening to music, like other subjective experiences, cannot be broken down into an object a, process and a relationship between the two.

Since Hinman does not disclose the above extraction and translation step for a structured finding, Hinman cannot disclose an application program to perform this non-existing step. Without the extraction and translation of a structured finding, it is also impossible for Hinman to disclose a content reviewer of the structured finding or for the content reviewer to be an application program. Similarly, there cannot be a second database to store the structured finding.

In sum, Mahran does not disclose at least five limitations recited in the instant invention and these missing limitation are also not disclosed in Hinman. Therefore, a *prima facie* case of obviousness has not been made. Hence, Applicants respectfully ask that the rejection of independent claim 12 and claims 13-16, 18, 20-26, and 35 that depend directly or indirectly from claim 12 be withdrawn.

Referring to Claim 37:

Applicants respectfully contend that Mahran does not disclose at least five claim limitations:

1) a server configured to assign an article to an information extractor for extraction of information from an article to be structured into at least an object, process, and a relationship between the object and process; 2) a server configured to receive information extracted by information extractor; 3) a server configured to assign the article and extracted information to a

content reviewer; 4) a server configured to receive corrections to extracted information from the content reviewer; and 5) an information store for storing the extracted information.

Each of these limitations is addressed below.

1) a server configured to assign an article to an information extractor for extraction of information from an article to be structured into at least an object, process, and a relationship between the object and process

Applicants respectfully contend that it is not apparent from referenced paragraph 0123 how fields in the indications table can accommodate a structured finding that comprises at least an object, process, and a relationship between them can be represented by the indications table fields.

Furthermore, Applicants contend that as paragraph 0123 discloses, the indications table is part of the treatment dataset and therefore according to paragraph 0122, it does not contain information extracted from articles. Instead, the rules or indications are obtained from experts. Therefore, Applicants assert that this reference does not disclose step 1) above.

2) a server configured to receive information extracted by information extractor

Without the extraction of information from an article to be structured into at least an object, process, and a relationship between the object and process in 1) above, there cannot be a server configured to receive such information.

3) a server configured to assign the article and extracted information to a content reviewer

Without the extraction of information from an article to be structured into at least an object, process, and a relationship between the object and process in 1) above, there cannot be a server to assign the extracted information to a content reviewer.

4) a server configured to receive corrections to extracted information from the content reviewer

Without the extraction of structured information from an article in 1) above, there cannot be a server to receive the corrections to the extracted structured information.

5) an information store for storing the extracted information

Without the extraction of structured information from an article in 1) above, there cannot be an information store for storing the extracted structured information.

These at least five limitations missing from Mahran are not supplied by Hinman. Hinman does not disclose a system for the extraction of information from an article to be structured into at least an object, process, and a relationship between the object and process. Instead, Hinman discloses a system for classifying subjectively perceived subject matter like music.

Without a server configured to assign an article to an information extractor for extraction of information from an article into at least an object, process and a relationship between the object and process, Hinman cannot disclose a server configured to receive the extracted information, a server configured to assign the extracted information to a content reviewer, or a server configured to receive the corrected extracted information about an object, process, and a relationship between the two. Therefore, Hinman does not remedy the deficits of Mahran.

In conclusion, Mahran does not disclose at least five limitations recited in the instant invention and these missing limitation are also not disclosed in Hinman. Therefore, a *prima facie* case of obviousness has not been made. Hence, Applicants respectfully ask that the rejection of independent claim 37 and claims 38-46 that depend directly or indirectly from claim 37 be withdrawn.

B. Claim 17

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Publication No. 2002/0165737 issued to Howard E. Mahran ("Mahran") and US Patent No. 7,022,905 issued to Jeremy D.F. Hinman et al ("Hinman") as applied to claim 12 above and further in view of US Patent No. 6,470,277 issued to Daniel J. Chin et al ("Chin"). Applicants traverse the rejection.

Claim 17 depends from independent claim 12. Applicants demonstrate in section A. above for claim 12 that the combination of Mahran and Hinman fails to disclose at least five claim limitations recited in the instant invention. These deficits are not remedied by Chin. Therefore, a *prima facie* case of obviousness has not been made. Consequently, Applicants respectfully request

that the rejection of claim 17 under 35 U.S.C. 103(a) be withdrawn.

C. Claims 19

Claims 19 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Publication No. 2002/0165737 issued to Howard E. Mahran (“Mahran”) and US Patent No. 7,022,905 issued to Jeremy D.F. Hinman et al (“Hinman”) as applied to claims 12 and 37 above and further in view of US Patent No. 6,498,795 issued to Junbiao Zhang et al (“Zhang”). Applicants traverse the rejection.

Claims 19 and 47 depend, respectively, from independent claim 12 and independent claim 37. Applicants demonstrate in section A. above, that the combination of Mahran and Hinman fails to disclose at least five claim limitations as applied to the parent claims. These deficits are not remedied by Zhang. Therefore, a *prima facie* case of obviousness has not been made. Consequently, Applicants respectfully request that the rejection of claims 19 and 47 under 35 U.S.C. 103(a) be withdrawn.

CONCLUSION

In light of the remarks set forth above, Applicants believe that they are entitled to a letters patent. Applicants respectfully solicit the Examiner to expedite the prosecution of this patent application to issuance. Should the Examiner have any question, the Examiner is encouraged to telephone the undersigned.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 23-2415 (Attorney Docket No. 27763-703.301) for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

Date: March 20 2009

By: Paul Borchardt
Paul Borchardt, Ph.D. (Reg. No. 53,999)

WILSON SONSINI GOODRICH & ROSATI
650 Page Mill Road
Palo Alto, CA 94304-1050
(650) 493-9300
Customer No. 021971